

INDEX TO VOLUME 2

Authors

A		G		MacMullin, R. B.	
Aditya, S. K.	468	Gambino, J. R.	195	Malaby, K. L.	393
Albright, Lyle F.	290	Gami, D. C.	79	Malow, Monroe.	169
Alexander, L. G.	177	Gex, V. E.	539	Mar, Brian W.	456
Alves, G. E.	143	Gonser, J. E.	169	Marsel, Charles J.	381
Amick, E. H., Jr.	337	Grace, H. P.	307	Mathis, J. F.	456
Amundson, N. R.	117, 157	Grieser, D. R.	215	Meade, F. C., Jr.	518
Atteridge, P. T.	3	Gross, B.	184	Metzner, A. B.	235
		Grounds, P. W., Jr.	555	Miller, Philip.	108
		Gruber, A. R.	199	Miller, R. A.	226
				Muccini, G. A.	79
B		H		Murphy, Nelson F.	393
Bard, Y.	468	Haefling, J. F.	169	Myers, J. E.	451
Barnett, M. K.	235	Hamilton, P. M.	235		
Barr, N. F.	211	Haney, R. E. D.	65	N	
Barr-David, F. H.	426	Hanratty, Thomas J.	42, 359, 372	Nekarvis, W. F.	79
Bates, H. T.	82	Happel, John.	456	Nelson, R. L.	404
Benedict, Manson.	219	Henley, E. J.	211		
Benforado, D. M.	226	Herbst, W. A.	65	O	
Berry, V. J., Jr.	559	Hiester, N. K.	404	Obert, E. F.	271
Beyer, G. H.	38, 148, 283	Hobson, Merk.	354, 389	Oliver, E. D.	18
Biggs, R. D.	26	Hoelscher, H. E.	101	Olney, R. B.	529, 545
Bilous, Olegh.	117	Hoke, Ronald.	249	Overcashier, R. H.	529
Bird, R. Byron.	428	Holcomb, E. G.	296		
Black, J. H.	572	Hopp, H. F., Jr.	34	P	
Boeglin, A. F.	190	Huang, Chen-Jung.	412	Paige, D. M.	190
Bonilla, C. F.	184	Huitt, J. L.	259	Pansing, W. F.	71
Boudart, Michel.	62	Hunt, E. B., Jr.	559	Pasternak, A. D.	468
Bowman, F. E.	173	Hyman, S. C.	199	Peaceman, D. W.	437
Boylan, D. R.	277			Perkins, A. S.	471
Brier, J. C.	568	I		Peterka, Vernon J.	343
Brownwell, L. E.	79	Isbin, H. S.	157	Peterson, H. C.	38
Bruggeman, Warren H.	153			Pigford, R. L.	363
Buckham, J. A.	190			Pigford, T. H.	219
Byrnes, James J.	226			Powell, James R.	219
		J			
		Jacmic, John J.	296	R	
		Jacobsen, F. M.	283	Radding, Shirley B.	404
		Johnson, A. I.	412	Rodger, W. A.	205
		Johnson, R. Curtis.	552	Rogers, John D.	536
				Ruth, B. F.	277
		K			
		Kapfer, William H.	456	S	
		Kent, E. R.	363	Saeman, W. C.	107
		Kingsley, H. A., Jr.	529	Sage, B. H.	251, 273
		Kintner, R. C.	420	Said, Abdel Salam.	477
		Klee, Albert J.	444	Sakiadis, Byron C.	88
		Kohl, Arthur.	264	Scheeline, H. W.	65
		Krone, Lester H., Jr.	552	Scheibel, E. G.	74
		Krugger, R. W.	568	Schiffries, W. P.	211
		Kwauk, Mooson.	240	Schreiner, W. C.	3
				Schwarz, W. H.	101
		L		Selke, W. A.	468
		Lamb, G. G.	555	Simkin, D. J.	545
		Lastovica, John E.	451	Simons, E. M.	215
		Latinen, George.	372	Simpson, T. B.	113
		Leibson, Irving.	296	Skrzecz, Adam E.	451
		Lemieux, E. J.	3	Smith, B. D.	46
		Lemlich, Robert.	249	Smith, J. M.	498
		Lemon, R. B.	190	Smith, R. B.	34
		Lerner, B. J.	13	Sondak, N. E.	347
		Leva, Max.	482	Stevens, P. N.	271
		Li, Kun.	448	Stevens, W. F.	555
		Loch, L. D.	195	Stiehl, J. G.	389
		Lohrenz, John.	290	Stoops, C. E.	190
		Lonergan, T. E.	280	Sundback, R. A.	3
		Lu, Benjamin C.-Y.	525		
				M	
				McCracken, P. G.	498
				McDowell, R. V.	384
				E	
				Edwards, R. B.	148
				Etherington, Lewis D.	65
				F	
				Fair, J. R.	13
				Ferstenberg, C.	184
				Fox, E. A.	539
				D	
				Daane, A. H.	169
				David, M. M.	381
				Davidson, Leon.	337
				Delaplaine, J. W.	127
				Dewell, E. H.	169
				Dodge, Barnett F.	431
				Duckworth, W. H.	195
				Dunn, W. E.	184
				Dwyer, O. E.	163
				C	
				Cacoso, Anthony.	296
				Canjar, L. N.	280, 343, 448
				Carmichael, L. T.	273
				Chajson, L.	190
				Churchill, S. W.	568
				Clark, R. G.	169
				Cleland, F. A.	489
				Coates, Jesse.	88
				Coreoran, W. H.	251
				Coull, James.	572
				Cubieciotti, D. D.	173
				Culverwell, J. F.	555

INDEX TO VOLUME 2

Authors

A		G		MacMullin, R. B.	
Aditya, S. K.	468	Gambino, J. R.	195	Malaby, K. L.	169
Albright, Lyle F.	290	Gami, D. C.	79	Malow, Monroe.	456
Alexander, L. G.	177	Gex, V. E.	539	Mar, Brian W.	381
Alves, G. E.	143	Gonser, J. E.	169	Marsel, Charles J.	456
Amick, E. H., Jr.	337	Grace, H. P.	307	Mathis, J. F.	518
Amundson, N. R.	117, 157	Grieser, D. R.	215	Mead, F. C., Jr.	235
Atteridge, P. T.	3	Gross, B.	184	Metzner, A. B.	108
		Grounds, P. W., Jr.	555	Miller, Philip.	226
		Gruber, A. R.	199	Miller, R. A.	79
B		H		Muccini, G. A.	393
Bard, Y.	468	Haefling, J. F.	169	Murphy, Nelson F.	451
Barnett, M. K.	235	Hamilton, P. M.	235	Myers, J. E.	384
Barr, N. F.	211	Haney, R. E. D.	65		
Barr-David, F. H.	426	Hanratty, Thomas J.	42, 359, 372	N	
Bates, H. T.	82	Happel, John.	456	Nekarvis, W. F.	79
Benedict, Manson.	219	Henley, E. J.	211	Nelson, R. L.	404
Benforado, D. M.	226	Herbst, W. A.	65		
Berry, V. J., Jr.	559	Hiester, N. K.	404	O	
Beyer, G. H.	38, 148, 283	Hobson, Merk.	354, 389	Obert, E. F.	271
Biggs, R. D.	26	Hoelscher, H. E.	101	Oliver, E. D.	18
Bilous, Olegh.	117	Hoke, Ronald.	249	Olney, R. B.	529, 545
Bird, R. Byron.	428	Holcomb, E. G.	296	Overcashier, R. H.	529
Black, J. H.	572	Hopp, H. F., Jr.	34		
Boeglin, A. F.	190	Huang, Chen-Jung.	412	P	
Bonilla, C. F.	184	Huitt, J. L.	259	Paige, D. M.	190
Boudart, Michel.	62	Hunt, E. B., Jr.	559	Pansing, W. F.	71
Bowman, F. E.	173	Hyman, S. C.	199	Pasternak, A. D.	468
Boylan, D. R.	277			Peaceman, D. W.	437
Brier, J. C.	568	I		Perkins, A. S.	471
Brownwell, L. E.	79	Isbin, H. S.	157	Peterka, Vernon J.	343
Bruggeman, Warren H.	153			Peterson, H. C.	38
Buckham, J. A.	190	J		Pigford, R. L.	363
Byrnes, James J.	226	Jacmic, John J.	296	Pigford, T. H.	219
		Jacobsen, F. M.	283	Powell, James R.	219
		Johnson, A. I.	412		
		Johnson, R. Curtis.	552	R	
C		K		Radding, Shirley B.	404
Cacoso, Anthony.	296	Kapfer, William H.	456	Rodger, W. A.	205
Canjar, L. N.	280, 343, 448	Kent, E. R.	363	Rogers, John D.	536
Carmichael, L. T.	273	Kingsley, H. A., Jr.	529	Ruth, B. F.	277
Chajson, L.	190	Kintner, R. C.	420		
Churchill, S. W.	568	Klee, Albert J.	444	S	
Clark, R. G.	169	Kohl, Arthur.	264	Saeman, W. C.	107
Cleland, F. A.	489	Krone, Lester H., Jr.	552	Sage, B. H.	251, 273
Coates, Jesse.	88	Krugger, R. W.	568	Said, Abdel Salam.	477
Coreoran, W. H.	251	Kwauk, Mooson.	240	Sakiadis, Byron C.	88
Coull, James.	572			Scheeline, H. W.	65
Cubieciotti, D. D.	173	L		Scheibel, E. G.	74
Culverwell, J. F.	555	Lamb, G. G.	555	Schiffries, W. P.	211
		Lastovica, John E.	451	Schreiner, W. C.	3
D		Latinen, George.	372	Schwarz, W. H.	101
Daane, A. H.	169	Leibson, Irving.	296	Selke, W. A.	468
David, M. M.	381	Lemieux, E. J.	3	Simkin, D. J.	545
Davidson, Leon.	337	Lemlich, Robert.	249	Simons, E. M.	215
Delaplaine, J. W.	127	Lemon, R. B.	190	Simpson, T. B.	113
Dewell, E. H.	169	Lerner, B. J.	13	Skrzecz, Adam E.	451
Dodge, Barnett F.	431	Leva, Max.	482	Smith, B. D.	46
Duckworth, W. H.	195	Li, Kun.	448	Smith, J. M.	498
Dunn, W. E.	184	Loch, L. D.	195	Smith, R. B.	34
Dwyer, O. E.	163	Lohrenz, John.	290	Sondak, N. E.	347
		Lonergan, T. E.	280	Stevens, P. N.	271
E		Lu, Benjamin C.-Y.	525	Stevens, W. F.	555
Edwards, R. B.	148			Stiehl, J. G.	389
Etherington, Lewis D.	65	M		Stoops, C. E.	190
		McCracken, P. G.	498	Sundback, R. A.	3
F		McDowell, R. V.	384		
Fair, J. R.	13				
Ferstenberg, C.	184				
Fox, E. A.	539				

T	
Thodos, George	347, 508
Toor, H. L.	470
Treybal, Robert E.	444
Trice, V. G., Jr.	205
Troost, Marius	219

U	
Uno, Seiji	420

A	
Absorption, gas, liquid-side resistance in	437
Adsorber, moving-bed, fractionation of gas mixtures in	456
Adsorption Phase-equilibrium Correlations: Light-hydrocarbon Vapors on Activated Charcoal	65
Agitated vessel, liquid extraction in	529
mass transfer studies in	412
Algebraic Approach to Calculating the Solvent Extraction of Complex Mixtures	34
Aluminum, reactor fuel	190
Analysis of Crystal-size Distribution in Mixed Suspensions	107
Analysis of Kinetic Data for Heterogeneous Reactions	59
Apparatus for Visual Study of Corrosion by Hot Water	215
Application of Bernoulli's Equation to Buoyant Systems	277
Aqueous ethylene-oxygen solutions, effect of gamma radiation on	211
Averaging of Mass Transfer Rates	470

B	
Benzene, nitration of, with mixed acid	26
Benzene-acetone system, vapor-liquid equilibrium for the	280
Bernoulli's equation, application to buoyant systems	277
Binary-component spray vaporization	555
Binary mixtures in the region of the critical point, notes on phase relations of	426
Blending, single phase	539
Bubble-cap fractionating-column plate efficiencies	18
Bubble-cap trays, entrainment from	3
Bubbles, gas, at horizontal orifices	337
measurement of, in boiling methanol	471
Butanol, tertiary, application of kinetic data in reactors	572

C	
Carbon monoxide and dioxide, catalytic hydrogenation of	46
Catalysts, fluidized-cracking, regeneration of	71
Catalytic Hydrogenation of Carbon Monoxide and Dioxide over Steel	46
Cation exchange, fixed-bed, ferric-ion removal from dilute acidic solutions by	381
Characteristics of Porous Beds and Structures	393
Chemical Equilibrium of the Ammonia Synthesis Reaction at High Temperatures and Extreme Pressures	431

V	
Vermeulen, Theodore	404
Vivian, J. E.	437
Voigt, A. F.	169
Von Rosenberg, D. U.	55

W	
Watson, C. C.	18, 518
Weber, James H.	354, 389, 514

Weller, Sol.	59
Wen, Chin-Yung	482
Westwater, J. W.	471
White, R. R.	26, 46
Wilhelm, Richard H.	372, 489
Wilson, J. W.	94
Winchester, Leonard J.	431
Winding, C. C.	113
Wissler, E. H.	157
Wright, J. H.	572

Subject Index

Chemical reaction, plate efficiency with: absorption of carbon dioxide in monoethanolamine solutions	264
Chemical-reactor Stability and Sensitivity, II	117
Chromatography, theoretical plate concept in	477
Common Basis for the Correlation of Forced and Natural Convection to Horizontal Cylinders	249
Composition Change in Binary-component Spray Vaporization at Atmospheric Pressure	555
Compressibility of Gaseous Propane-propene Mixtures	448
Condensation of vapor mixtures, fractionation during	363
Continuous Dissolution of Uranium-aluminum Reactor Fuels	190
Convection, forced, ignition of propellants by	568
and natural, to horizontal cylinders, a common basis for the correlation of	249
Correlating Kinetic Data in Reactors, Application to Tertiary Butanol Dehydration	572
Correlation of Bubble-cap Fractionating-column Plate Efficiencies	18
Correlation, dense-phase, of fluidized-bed heat transfer	482
Correlation of Forced and Natural Convection to Horizontal Cylinders	249
Correlation of Friction Factors in Non-Newtonian Flow	428
Corresponding states, theorem of, applied to saturated liquids and vapors	354
Corrosion by hot water, apparatus for visual study of	215
Counting variables in separation processes, a system for	240
Critical Constants of the Naphthenic Hydrocarbons	508
Crystal-size distribution in mixed suspensions, analysis of	107
Cumene dealkylation, effect of fluidization on catalytic reactions in	518
Cyclone, liquid-liquid	545

D	
Decontamination process, attainment of optimum conditions for	235
Determination of Relative Permeability Under Simulated Reservoir Conditions	94
Differential Heats of Condensation Enthalpies of Saturated-liquid Hydrocarbon Mixtures	389
Diffusion coefficients, a generalized correlation for	13

Diffusion Coefficients in Hydrocarbon Systems: <i>n</i> -Heptane in the Gas Phase of the Ethane- <i>n</i> -Heptane and Propane- <i>n</i> -Heptane Systems	273
Diffusion and Reaction in Viscous-flow Tubular Reactor	489
Diffusion of Uranium Through Graphite	195
Distribution of Temperature in 1-2- and 1-4-pass Heat Exchangers	82

E	
Eddy conductivity in thermal transport, role of	251
Effect of Fluidization on Catalytic Cumene Dealkylation	518
Effect of Gamma Radiation on Aqueous Ethylene-oxygen Solutions	211
Effect of Wall Proximity on the Rate of Rise of Single Air Bubbles in a Quiescent Liquid	420
Enthalpies of saturated hydrocarbon mixtures and differential heats of condensation	389
Enthalpy of Hydrocarbon Mixtures	343
Entrainment from Bubble-cap Trays	3
Estimation of Heat Sources in Nuclear Reactors	177
Evaporated metal films, properties of, related to their use for surface-temperature measurements	113
Evolution of Gas from Liquids Flowing Through Porous Media	559
Extraction, liquid, in an agitated vessel	529
Extraction column, internally baffled multistage, performance of an	74
Extraction systems, complex liquid-liquid, prediction of ideal-stage requirements in	38
Extraction tube, horizontal, mass transfer in	451
Extractor, centrifugal, operating characteristics of a	283

F	
Factorial Experiments in Sequence: Attainment of Optimum Conditions for a Decontamination Process	235
Ferric Ion Removal from Dilute Acidic Solutions by Fixed-bed Cation Exchange	381
Filter media, structure and performance of	307
Fission-product removal from uranium-bismuth reactor fuels by use of fused-salt extraction, process for	163

Flooding Characteristics of a Pulse Extraction Column.....	148	Hydrocarbon systems, diffusion coefficients in.....	273	Measurements of Bubbles Formed in Boiling Methanol.....	471
Flow Distribution Among Parallel Heated Channels.....	199	Hydrocarbons, light.....	65	Mechanics of Steady State Single-phase Fluid Displacement from Porous Media.....	55
Flowing beds of solids, forces acting in.....	127	naphthenic, critical constants of..	508	Mechanism of Heat Transfer to Liquid Drops.....	384
Fluid displacement from porous media, mechanics of steady state single-phase.....	55	saturated aliphatic: vapor pressures	347	Methanol, measurement of bubbles in Methanol-benzene-hexane system, thermodynamic properties of...	471
Fluid Flow in Simulated Fractures..	259	Hydrogen, two-phase flow of, in horizontal tubes.....	536	Mixed suspensions, analysis of crystal-size distribution in.....	107
Fluidization, effect on catalytic reactions in gas-solid systems.....	518			Monoethanolamine solutions, absorption of carbon dioxide in.....	264
Fluidized-bed Heat Transfer: A Generalized Dense-phase Correlation.....	482	I			
Fluidized beds of particles, turbulent diffusion in.....	372	Ignition of Solid Propellants by Forced Convection.....	568	N	
Forces Acting in Flowing Beds of Solids.....	127	Interfacial area in liquid-liquid dispersions, light transmittance as a measure of.....	205	Naphthenic hydrocarbons, critical constants of.....	508
Formation of Gas Bubbles at Horizontal Orifices.....	337	Interpretation and Correlation of Ion Exchange Column Performance under Nonlinear Equilibria	404	Natural-circulation loop, two-phase, oscillatory behavior of.....	157
Fractionation During Condensation of Vapor Mixtures.....	363	Ion exchange, mass transfer rates in..	468	Neutron Lifetimes and Void Coefficients for Research Reactors...	219
Fractionation of Gas Mixtures in a Moving-bed Adsorber.....	456	Ion exchange column performance, interpretation and correlation of, under nonlinear equilibria.....	404	Nitration of benzene with mixed acid, rate of.....	26
Fractures, simulated, fluid flow in..	259			Nonlinear equilibria, interpretation and correlation of ion-exchange-column performance under.....	404
Friction factors in non-Newtonian flow, correlation of.....	428	K		Non-Newtonian flow, correlation of friction factors in.....	428
Fused-salt extraction, fission-product removal by.....	163	Kinetic data, correlated in reactors..	572	Notes on Phase Relations of Binary Mixtures in the Region of the Critical Point.....	426
		for heterogeneous reactions, analysis of.....	59		
G		Kinetics on Ideal and Real Surfaces..	62	O	
Gas, evolution from liquids flowing through porous media.....	559			Operating Characteristics of a Centrifugal Extractor.....	283
Gas absorption, liquid-side resistance in.....	437	L		Organic liquids, prediction of specific heat of.....	88
Gas bubbles, at horizontal orifices...	337	Light-hydrocarbon vapors on activated charcoal, adsorption phase-equilibrium correlations.....	65	Orifices, horizontal, formation of gas bubbles at.....	337
Gas mixtures, fractionation in a moving-bed adsorber.....	456	Light Transmittance as a Measure of Interfacial Area in Liquid-liquid Dispersions.....	205	single, submerged, rate of flow and mechanics of bubble formation from.....	296
Gas-solid systems, effect of fluidization on catalytic reactions in.....	518	Liquid drops, heat transfer to.....	384	Oscillatory Behavior of a Two-phase Natural-circulation Loop.....	157
Gamma radiation, effect of, on aqueous ethylene-oxygen solutions.....	211	rate of rise or fall.....	444		
Generalized Correlation of Diffusion Coefficients.....	13	Liquid Extraction in an Agitated Vessel.....	529	P	
Graphite, diffusion of uranium through.....	195	Liquid-liquid cyclone, phase separation and mass transfer in.....	545	Parallel heated channels, flow distribution among.....	199
		Liquid-liquid extraction systems.....	38	Performance of Internally Baffled Multistage Extraction Column.....	74
H		Liquid-liquid extraction tube, mass transfer in.....	451	Permeability, relative, under simulated reservoir conditions.....	94
Heat exchangers, 1-2- and 1-4-pass, distribution of temperature in..	82	Liquid-metal Extraction for Processing of Spent Fuel.....	169	Phase relations of binary mixtures in the region of the critical point..	426
Heat sources in nuclear reactors, estimation of.....	177	Liquid metals, mass transfer in.....	184	Phase Separation and Mass Transfer in a Liquid-liquid Cyclone.....	545
Heat transfer, fluidized-bed.....	482	Liquid-side Resistance in Gas Absorption.....	437	Plate concept, theoretical, in chromatography.....	477
to liquid drops, mechanism of.....	384	Liquid-sodium systems, use of zirconium in.....	173	Plate efficiencies, bubble-cap fractionating-column, correlation of.....	18
Heat Transfer through a Homogeneous Isotropic Turbulent Field.....	42	Liquids, flowing through porous media, evolution of gas from..	559	Plate Efficiency with Chemical Reaction: Absorption of Carbon Dioxide in Monoethanolamine Solutions.....	264
Heat Transfer to Water Flowing Parallel to a Rod Bundle.....	226	organic, prediction of specific heats of.....	88	Polar-nonpolar mixtures, thermodynamic properties of.....	498
Heat transfer coefficients, local, for flow in nonparallel passageways, a semiempirical solution for.....	271	saturated, theorem of corresponding states applied to.....	354	Porous beds and structures, characteristics of.....	393
Heated channels, parallel.....	199	single-phase blending of.....	539	Porous media, evolution of gas from liquids flowing through.....	559
Heterogeneous reactions, analysis of kinetic data for.....	59	viscosity of.....	290	fluid displacement from.....	55
n-Hexane, thermodynamic properties of.....	514	M		pressure drop through.....	79
Hydraulic Analysis of Sudden Flow Changes in a Complex Pumping Circuit.....	143	Mass and momentum, turbulent exchange of, with a boundary.....	359	Prediction of Ideal-stage Requirement in Complex Liquid-liquid Extraction Systems.....	38
Hydrocarbon mixtures, binary, prediction of vapor-liquid equilibrium data for.....	525	Mass transfer, in a cyclone.....	545		
enthalpy of.....	343, 389	Mass Transfer in a Horizontal Liquid-liquid Extraction Tube.....	451		
		Mass Transfer in Liquid Metals.....	184		
		Mass Transfer in a Wetted-wall Column: Turbulent Flow.....	101		
		Mass transfer rates, averaging of...	470		
		Mass Transfer Rates in Ion Exchange.....	468		
		Mass Transfer Studies in an Agitated Vessel.....	412		

471
55
384
471
498
107
264
508
157
219
26
404
428
426
283
88
337
296
157
199
74
94
426
45
77
18
64
98
93
59
55
79
38
6

Prediction of Specific Heat of Organic Liquids.....	88
Prediction of Vapor-liquid Equilibrium Data: for Binary Hydrocarbon Mixtures at Various Total Pressures.....	525
Pressure Drop Through Porous Media, Part V.....	79
Process for Fission-product Removal from Uranium-bismuth Reactor Fuels by Use of Fused-salt Extraction.....	163
Propellants, solid, ignition of.....	568
Properties of Evaporated Metal Films Related to Their Use for Surface-temperature Measurements.....	113
Pulse extraction column, flooding characteristics of a.....	148
Pumping circuit, complex, hydraulic analysis of sudden flow changes in a.....	143
Purity Control in Sodium-cooled Reactor Systems.....	153
R	
Rate of Flow and Mechanics of Bubble Formation from Single Submerged Orifices.....	296
Rate of Nitration of Benzene with Mixed Acid.....	26
Rate of Rise or Fall of Liquid Drops. Reaction, in viscous-flow tubular reactor.....	444
Reactions, catalytic, in gas-solid systems.....	489
heterogeneous, analysis of kinetic data for.....	518
Reactor, chemical, stability and sensitivity of.....	59
Reactor fuels, uranium-aluminum, continuous dissolution of.....	117
uranium-bismuth, process for fission-product removal from, by use of fused-salt extraction.....	190
Reactors, estimation of heat sources in.....	163
Reactor systems, sodium-cooled, purity control in.....	177
Regeneration of Fluidized Cracking Catalysts.....	153
Relative permeability, determination of, under simulated reservoir conditions.....	71
Resistance, liquid-side, in gas absorption.....	94
Role of Eddy Conductivity in Thermal Transport.....	437
S	
Saturated liquids and vapors, theorem of corresponding states applied to Semiempirical Solution for Local Heat Transfer Coefficients for Flow in Nonparallel Passageways.....	251
Separation processes, a system for counting variables in.....	354
Single-phase Blending of Liquids.....	271
Sodium-cooled reactor systems, purity control in.....	240
Solvent extraction of complex mixtures, an algebraic approach to calculating.....	539
Specific heat of organic liquids, prediction of.....	153
Spent fuel, processing of, liquid-metal extraction for.....	34

Structure and Performance of Filter Media.....	307
Surfaces, ideal and real, kinetics on..	62
Suspensions, crystal-size distribution in.....	107
System for Counting Variables in Separation Processes.....	240
T	
Tertiary butyl alcohol, thermodynamic properties of.....	552
Theorem of Corresponding States Applied to Saturated Liquids and Vapors.....	354
Theoretical Plate Concept in Chromatography.....	477
Thermal transport, role of eddy conductivity in.....	251
Thermodynamic Properties of <i>n</i> -Hexane.....	514
Thermodynamic Properties of Polar-Nonpolar Mixtures: Methanol-benzene-hexane System.....	498
Thermodynamic Properties of Tertiary Butyl Alcohol.....	552
Tubes, horizontal, two-phase flow in. Tubular reactor, viscous-flow, diffusion and reaction in.....	536
Turbulent Diffusion in Particularly Fluidized Beds of Particles.....	489
Turbulent Exchange of Mass and Momentum with a Boundary.....	372
Turbulent field, homogeneous isotropic, heat transfer through.....	359
Two-phase Flow of Hydrogen in Horizontal Tubes.....	42
U	
Uranium, diffusion of, through graphite.....	536
Uranium-aluminum reactor fuels, continuous dissolution of.....	195
Use of Zirconium in Liquid-sodium Systems.....	190
V	
Vapor-liquid Equilibrium for the Benzene-acetone System.....	173
Vapor-liquid equilibrium data for binary hydrocarbon mixtures.....	280
Vapor Pressures: The Saturated Aliphatic Hydrocarbons.....	525
Vaporization, spray, composition change in.....	347
Vapors, theorem of corresponding states applied to.....	555
Viscosity of Liquids.....	354
Viscous-flow tubular reactor, diffusion and reaction in.....	290
Void coefficients, neutron lifetimes and, for research reactors.....	489
W	
Wall proximity, effect of, on the rate of rise of single air bubbles in a quiescent liquid.....	219
Water, flowing parallel to a rod bundle, heat transfer to.....	420
Wetted-wall column, mass transfer in.....	226
Z	
Zirconium, in liquid-sodium systems.....	101

BOOKS

Vapor-liquid Equilibrium Data. Ju Chin Chu, Shu Lung Wang, Sherman L. Levy, and Rajendra Paul. J. W. Edwards, Publisher, Inc., Ann Arbor, Michigan (1956). 754 pages, \$9, paperbound.

This book, presenting data for 466 binary and ternary systems, is a sequel to "Distillation Equilibrium Data" by J. C. Chu, R. J. Getty, L. F. Brennecke, and Rajendra Paul [Reinhold Publishing Corporation, New York (1950)]. Data appearing in the earlier volume are indexed but not reprinted in the present work. The systems covered are extensively indexed, and reference is made to the original papers. A partial list of corrections to the first volume is included.

The initial volume purported to "include all pertinent experimental results of workers in all parts of the world working with all kinds of equipment" and was to cover data through December of 1949. The degree to which it failed may be assessed from the fact that of the first 100 entries in the alphabetical listing of references to the new work 47 are to papers published prior to January, 1949.

The present book attempts to cover the literature of the field up to June, 1954. No claim to exhaustive coverage is made. A limited check of the systems indexed showed a few omissions, mostly of data duplicating earlier work. The authors state no policy here, but it is the opinion of this reviewer that the interests of the chemical community would best be served by printing the most complete bibliography available for each system together with selected values of data for systems where the data of various investigators may overlap.

A great deal of work has obviously gone into the preparation of this compilation, which should find wide use. Besides furnishing ready access to the literature of specific systems it should prove invaluable to students of vapor-liquid equilibrium who wish to compare the relative behaviors of groups of real systems.

EDGAR W. SLOCUM

Mass-Transfer Operations. Robert E. Treybal. McGraw-Hill Book Company, Inc., New York (1955). 666 pages, \$9.50.

Primarily, Professor Treybal's recent book is intended to be an undergraduate text for the study of those chemical engineering unit operations concerned with diffusion. The work differs in scope from its contemporary elementary chemical engineering texts by virtue of its treatment of the diffusional operations exclusively, rather than of the unit operations in general.

The fundamentals of molecular and turbulent diffusion are discussed first. Then the topic of interphase mass transfer is introduced and serves to acquaint the student with the use of the two-film theory and the material balance as applied to various types of contacting operations. The specific operations are then presented with emphasis mainly on fundamentals and with only brief treatment of the more advanced topics. Gas absorption, humidification, distillation, li-

(Continued on page 11D)